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Anal Cancer : Current Concepts and Treatment Results

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Summary

37 patients were treated upon carcinoma of the anal canal or anal margin between 1977 and 1989. Although combined radiochemotherapy is of increasing interest as the treatment of choice our patients who underwent radical surgery in form of abdominoperineal rectum resection only had a very good outcome. Combined multimodal therapy by radiation and chemotherapy may possibly be able to reduce the rate of necessary resections. Difficulties in finding out a relapse of disease after such treatments are discussed. The own experience with combined radio-chemotherapy is not large enough at the present time to make significant statements. Long term results have to be expected yet. Abdominoperineal rectum resection as a means of radical surgery still has its place in the spectrum therapeutic modalities of treating anal carcinoma.

Introduction

Due to the very rare occurrence of the anal cancer which comprises about 2 percent of all colorectal carcinoma²⁾, there are no standardized methods of treatment⁵⁾. The opinions about the best therapeutical concept differ very much according to literature. In addition to that the malignant anal cancer occurs in a multitude of different histological types. This is conditioned by the anatomic and functional structure of the sphincter ani and the history of development of the anal canal, which is a survival of the embryonic cloaca with the transitional zone of ectoderm and entoderm^{7,15,16)}.

Recent reports describe an improvement of the results of treatment by a combination of operation, radiation and chemotherapy^{1,3,4,6,9,10,11,12)}.

Therefore we examined our own clinical cases treated in the above mentioned manner and we compared our response with the literature.

Key words: Anal carcinoma, Different forms of treatment, Value of abdomino, Perineal rectum resection.

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Materials and Methods

Within almost 12 years from March 1977 to January 1989 we treated 37 patients at the surgical department at Bonn University. The age ranged from 33 to 82 years with a mean age of 61, 2 years. All patients had a biopsy-proven cancer of the anal canal or anal margin.

28 of these patients were found to suffer from epidermoid cancer, 6 from adenocarcinoma and 3 from cloacogenic carcinoma. As shown in Fig. 1 women over 60 years were percentually most afflicted. In accordance with the literature⁷⁾ we found that the percentage of women who were afflicted by anal cancer was almost double as high (65%; n=24) as the disease occurred in men (35%; n=13).

Further we had a predominance of the anal canal cancer in women (92%; n=22) but a predominance of the anal margin cancer in men (62%; n=8) (Fig. II)

35 out of a total amount of 37 patients could be followed up from 3 to 253 months after initial treatment.

Due to the tumor stage we either performed the abdominoperineal rectum-amputation (APR) only (n=12) or in combination with radiotherapy (n=12). 7 patients were treated by local excision and radiation. 2 patients refused any further treatment after local excision. 2 other patients are right now being treated by chemotherapy and radiation after the protocol initiated by NIGRO^{10,11)} and its modification by DENECKE^{3,4)}. This combined chemo-radiotherapy consists of two drugs: *Mitomycin c* (10 mg/m²) as an intravenous bolus injection on day 1, and *5-Fluorouracil* (5-FU) (1000 mg/m²) as an intravenous infusion for 4 days (day 2-5). Radiation therapy is given simultaneously with the drug therapy starting on day 1 at 2

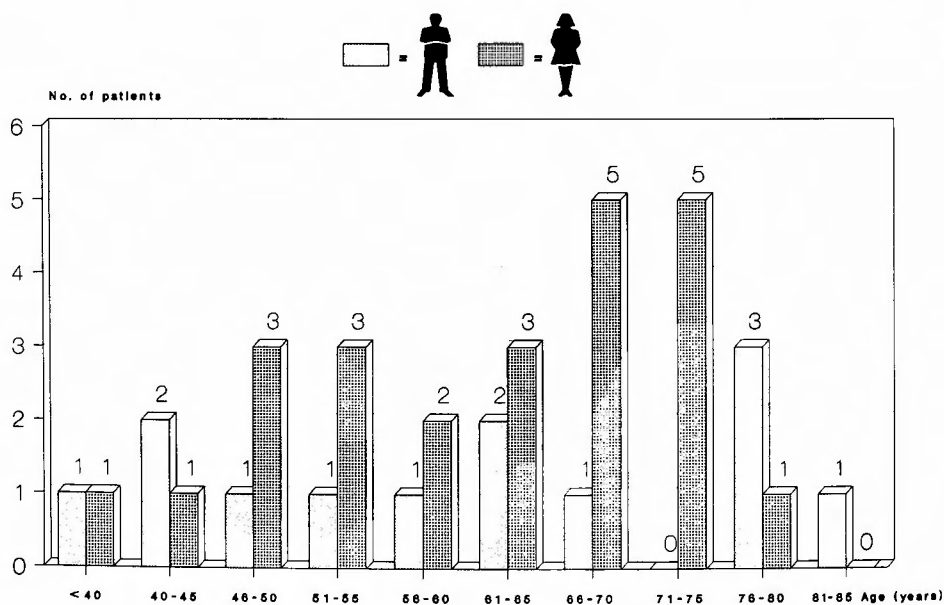


Fig. 1. Age range of 37 patients with anal carcinoma.

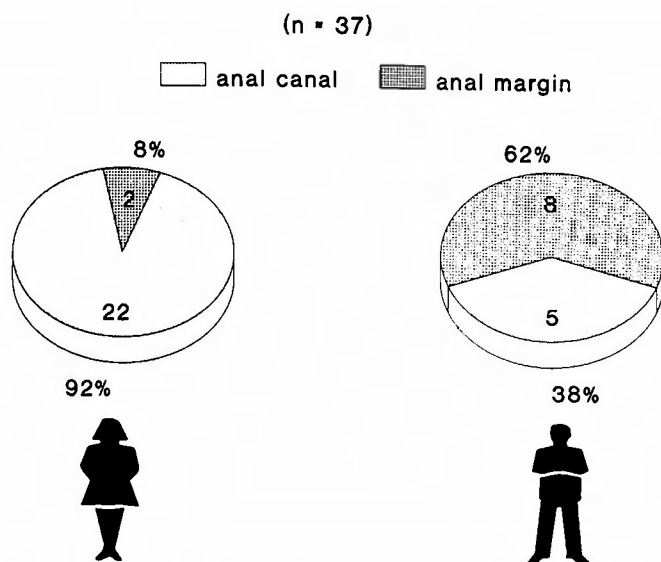


Fig. 2. Sex ratio and localisation of the malignancy in 37 patients with anal cancer.

Gy (=200 rad) per day until a total dose of 40 Gy (=4000 rad) has been reached.

Restaging is done 3 weeks later and if the tumor is very small another irradiation of 20 Gy (=2000 rad) will take place. Should the tumor be still large a radical APR is performed.

This concept of treatment, i.e. the combined drug-radiation therapy is thought to increase the radio-sensitiveness of anal cancer.

Results

Symptoms

The symptoms which made the patients consult the physician ranged from loss of weight, diarrhea and constipation, pruritus, palpable mass lesions, anal pain and rectal bleeding. Leading symptom was rectal bleeding in 65% (n=24) followed by anal pain in 43% (n=16). Duration of symptoms ranged from 3 weeks to two years.

Survival Rate and Mortality

The study group comprised 35 patients of which 71%²⁵⁾ were still alive at the end of the this study. 34%¹²⁾ of the patients survived more than 5 years after treatment, 37% (13 patients) were still alive at the end of the study but have not reached the five-year-survival rate yet.

A subdivision concerning the results of treatment in relation to the localization of the initial tumor shows, that in our series the cancer of the anal canal had an obviously better prognosis than the cancer of the anal margin (Fig. III).

We further found that in our patients the cloacogenic cancer had the best chances of being cured whereas the adenocarcinoma had the worst (Fig. IV).

In general we saw the tendency that the patients, who were resistant to any treatment or

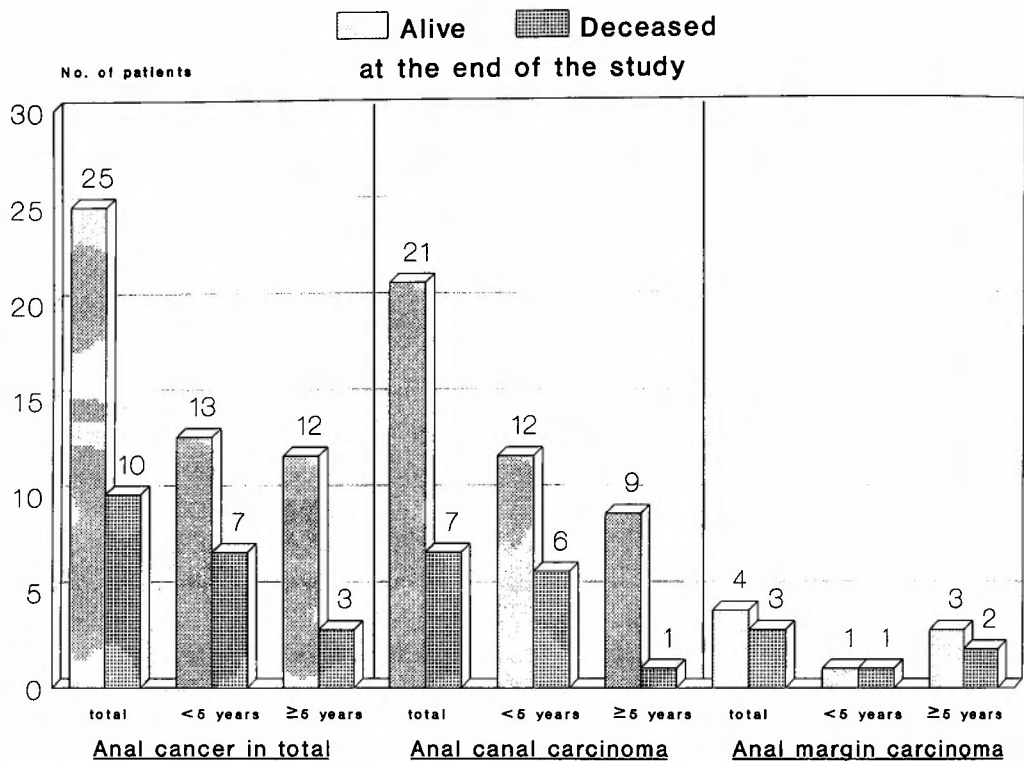


Fig. 3. Survival rate and mortality in general and as related to the various localisations of the anal cancer in 37 patients.

had large lesions at the time of first examination died very soon (Fig. V). This might be due to the variable aggressiveness and individual pathology as well as histological patterns of the different anal malignancies.

Concerning the various possibilities of treatment in relation to the tumor localization there is none of the methods found to be clearly superior. In our collection of clinical cases we found 10 survivors out of 12 patients who underwent APR only. On the other hand 5 out of 6 patients with local excision and radiation therapy survived (2 patients with anal canal cancer and 3 patients with anal margin cancer).

Relapses and Metastases

In our study we found relapse of anal cancer in 8 patients. One of these patients had his initial tumor at the anal margin and died meanwhile. The remaining 7 patients were suffering from anal canal tumors. 4 out of them are still alive and 3 people already deceased. Metastases were found in 6 patients, 4 of these are not alive any more.

Discussion

Due to the rarity of the anal carcinoma the various modes of treatment differ very much

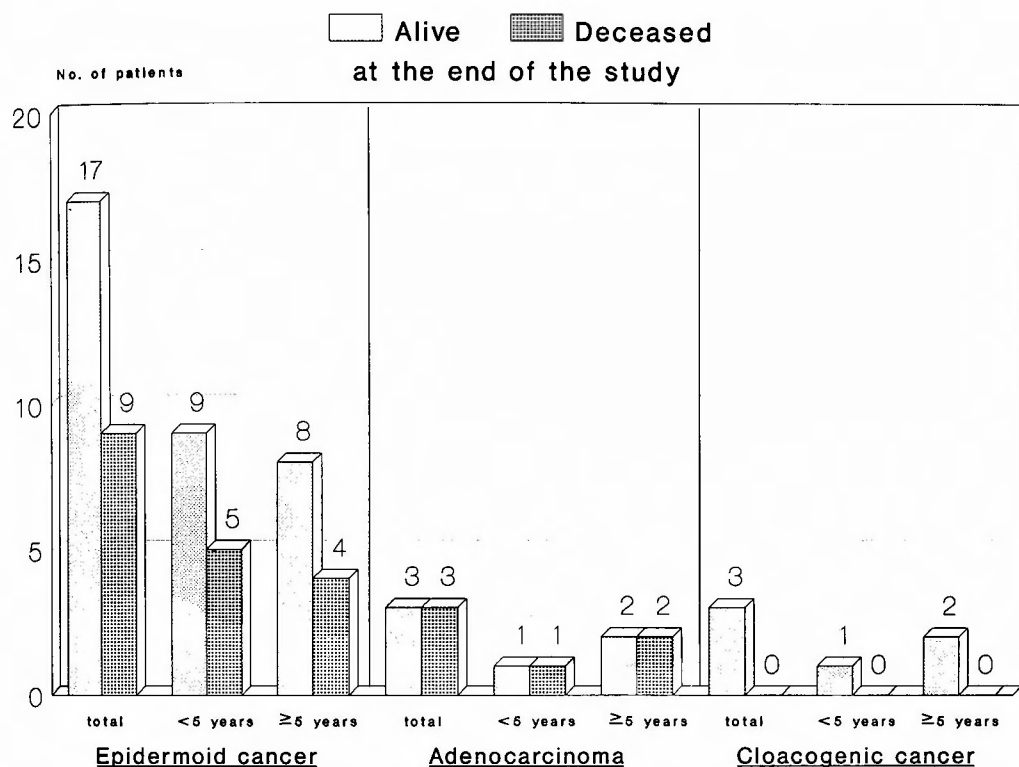


Fig. 4. Survival rate and mortality in relation to the different histological entities.

and range from APR and local excision to the different suggestions of radiotherapy only, and in addition to surgery as well as chemotherapy^{5,7,8,10,14)}

On the one hand there is the attempt to preserve the anal sphincter but on the other hand there is a demand for the best possible and safest therapy concept in order to get the disease completely under control.

The multimodal therapy with the addition of chemoradiation therapy as published by NIGRO^{10,11,12)} is expected to show better results of treatment than the radical surgery only. Recent reports show impressive shrinkage of the tumor. But it is not easy to recognize a persistent tumor after irradiation because although a scar might appear inconspicuous, a malignant area can be overseen. A rather painstaking biopsy in an irradiated area might lead to the loss of function of the continence organ. Further there is no valid statement about lymph node metastasis formation by this biopsy. DENECKE reports about 6 out of 17 patients who underwent abdomino-perineal rectum-amputation after chemoradiation and who had remaining tumor residues^{3,4)}. He suggests the APR as the primary form of treatment at least for all tumors staged T 3 or T 4 by means of the TNM-classification.

With the exception of mucoepidermoid tumors and the microcellular malignoma the morphology of the anal cancer is said to have little influence on the prognosis only^{1,4,12,13)}. The patients fate is determined rather by the location of the tumor^{2,7,8)}. The anal margin cancer

formed. The other half of the incurable patients however survived several years although they were suffering from advanced tumor stages. 3 of these 5 patients even died beyond the 5-year-period.

Based on different literature results combined chemoradiation therapy promises to increase the cure rate of anal cancer even in late tumor stages. The method should also be considered in case of recurrent disease and if the initial treatment was not consisting of chemoradiotherapy. Due to the yet small number of cases and comparatively short follow-up time with that particular treatment in the own experience we cannot report significant statements about this therapeutical approach yet. However, chemoand radiotherapy are not free from a lot of unavoidable problems.

Until there will be more experience with the long- term outcome of patients with chemoradiation therapy only we would like to emphasize the value of abdomino-perineal rectum resection in order to increase the rates of permanent cure as a strong therapeutical advice in the initial treatment for all infiltrating and recurrent anal cancers and for all remaining malignant lesions after non-surgical procedures.

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